

## RF Exposure evaluation

According to KDB447498D01 General RF Exposure Guidance v06

### 4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR,

where  $f(\text{GHz})$  is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion

$$e_{\text{irp}} = p_t \times g_t = (E \times d)^{2/30}$$

where:

$p_t$  = transmitter output power in watts,

$g_t$  = numeric gain of the transmitting antenna (unitless),

$E$  = electric field strength in V/m,  $\text{---}10((\text{dBuV/m})/20)/106$  ,

$d$  = measurement distance in meters (m)---3m,

$$\text{So } p_t = (E \times d)^{2/30} \times g_t$$

The worst case (refer to report FCC16063743) is below:

For 2.4G wireless:

Mode	Pmax	Pmax	Distance	f(GHz)	Calculati on Result	Standalone SAR test exclusion Threshold	SAR test exclusion
	(dBm)	(mW)	(mm)				
BT	2.77	1.89	5.00	2.450	0.59	3.00	Yes

0.59 < 3.0 for 1-g SAR

So the SAR report is not required.